

White Paper

IT Governance and the Axis of Value

In a complex and rapidly changing world in which we rely to a strong degree on information (technology) to help us live, work and play, we demand that IT is taken seriously.

This white paper explores the subject of IT Governance and in particular how we can ensure that we get sufficient value from our investments in IT.

You may just be recovering from the recent IT malaise and possibly don't want to hear this, but you could be in for an exciting ride before long

Computing will be adaptive, organic, intelligent; there will be pervasive connectivity and embedded systems on a massively large scale. There's going to be a breakthrough in bandwidth, enabling wireless connectivity. Not only connectivity of the existing sources of video, audio and data but with further miniaturization there'll not only be chips in everything (and maybe everybody) but they'll be connected as well. Producing more data than we can imagine. The prediction for the 'internet of things' is that more machines than people will be using internet to communicate. As scarcity of raw data becomes a thing of the past, power will shift from data gatekeepers to those who can combine and interpret data. Think of consumers being able to scan an article in a shop and to get information on price and availability from other sources. Organisations that can provide such a service will shift the balance of power in the supply chain.

Pressure of speed of change and susceptibility to sound bites will seduce executives into taking unsound decisions

Speed of change will increase and businesses will have to be focussed, responsive, variable and resilient but the pressure of speed of change and the susceptibility to shallow sound bites will seduce many an executive into taking unsound decisions. Businesses are componentising into discrete services, enhancing flexibility and innovation capabilities. More than 50% of top 500 US companies have a core of less than 100 employees but many partners who perform outsourced tasks.

As far as relationships are concerned - whether it's with employees, customers or suppliers - more individuality and less traditional long-term loyalty will lead to parallel and discontinuous relationships in which short-term perceived value will play a leading role. Both business and private life will be more a-synchronous and a-geographic, e.g. working out of office hours and out of the office.

The consequences of digitisation of information will trigger additional worldwide legislation and regulations regarding privacy, security, corporate financial reporting etc. IT will be further incorporated in our private and business lives. Increasing our dependency on IT. Increasing the complexity of IT. Increasing the risks associated with IT.

Add to all of this the globalisation trend of manufacturing moving east to the Global Factory (China) and services to the Global Service Center (India) and what have you got: a Major European Challenge. Assuming that China and India are going to have the advantage as far as costs are concerned, European companies are going to have to compete on another dimension: innovation. Increasing the pressure on getting more value from continually reduced IT budgets.

Privacy

Now we know more than ever
about the rest of the world,
And the rest of the world knows
more and more about us,
Privacy is becoming a very
great privilege,
Which eventually we'll probably
have to pay for.

*Peter Day, In Business,
BBC Radio, June 2005*

How are you going to keep this under control?

This increased complexity and speed of change implies the need for agile businesses and IT systems while at the same time having to maintain or increase transparency and accountability. And if you're an IT manager or a CIO, how are you going to keep this under control?

The good news is that the short-term effects of trends like these are usually over-estimated, whereas the long-term effects can surpass expectations. So maybe you'll be enjoying your pension when this gets up to speed. On the other hand, taking into account the demographics of European depopulation and aging, you might still be working...

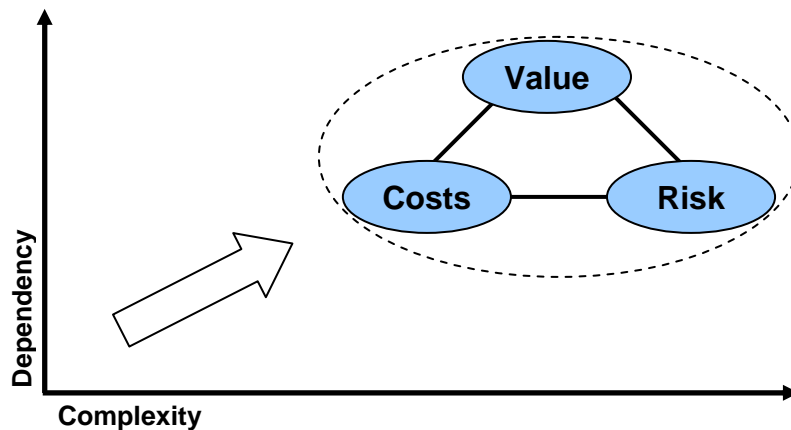


Figure 1: The IT challenge

This short sketch of a possible future scenario sets the scene for this white paper on IT Governance, which consists of a number of statements related to IT Governance and is intended to contribute to decision-making on how much attention organisations should give to this subject.

The white paper covers:

- ◇ the components of an IT system and their potential for creating value
- ◇ expectations of IT from a business point of view
- ◇ a definition of IT Governance, a short analysis of why organisations are taking IT more seriously and the board level connection with Enterprise Governance
- ◇ the challenge of getting better grip on value creation
- ◇ areas for improving IT Governance.

IT systems, aligned with both the business processes and the business strategy

We give IT systems a broad definition, comprising hardware, software and data plus the processes and people needed to make it all work (figure 2a). IT systems exist within the context of the business, aligned with both the business processes and the business strategy (figure 2b).

In figure 2a these components are stacked in a way that represents their potential for influencing the value associated with the IT systems. The components at the top are the most important for *creating* value, while the components at the bottom are needed in order to *realize* this potential.

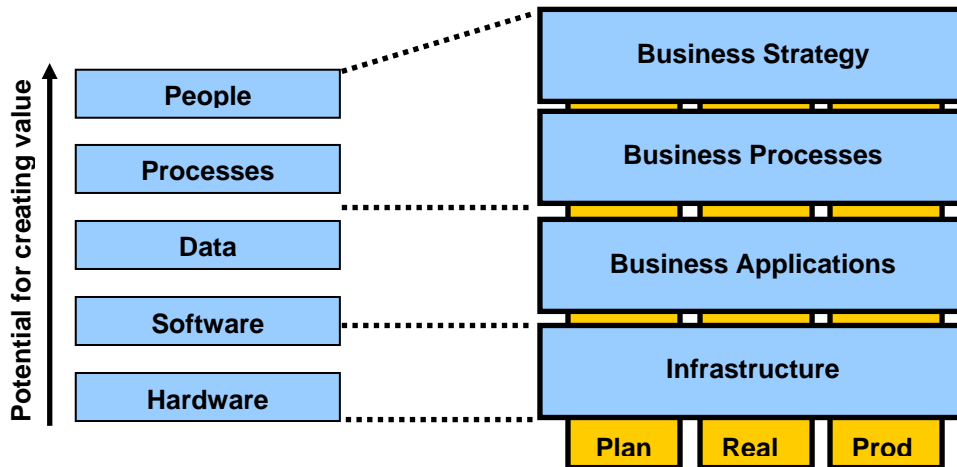


Figure 2a: IT system components

Figure 2b: IT systems in a business context

The components in these categories have various characteristics and during their lifecycle exist in various states, these main ones of which are: planning, realisation and production, the latter of which can in turn be subdivided into the parallel states of usage, operations and change.

While costs and benefits grow, the possibilities to influence these costs and benefits decrease

An interesting observation about economics aspects of IT systems, made by Egon Berghout, Professor of Information Management at the University of Groningen, is that during the lifecycle of IT systems, while costs and benefits grow, the possibilities to influence these costs and benefits decrease. This emphasises the importance of consciously setting goals for these aspects early in the lifecycle.

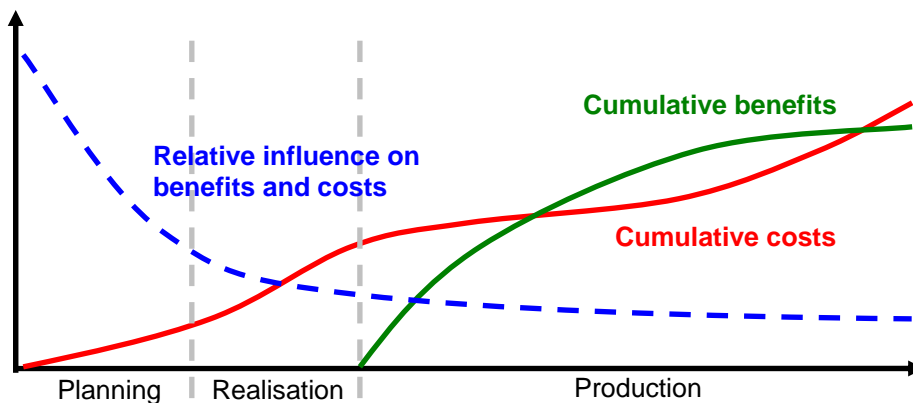


Figure 3: declining influence of economic aspects

Is your IT up and running, up to date and under control?

From a business point of view there are three simple expectations as far as IT is concerned. IT has to be up and running, up to date and under control. No more, no less.

Up and running refers to the daily needs of the users who rely on the systems to help them with their work. The systems have got to perform and if there are problems or queries regarding usage of the systems, these have to be dealt with in an appropriate manner.

Not only should the systems work, they should also provide the kind of support for the business processes that is always *up to date* with the ever-changing business environment. This isn't just restricted to minor enhancements of existing systems, it means having the right systems in place. In other words: alignment of IT with the Business.

And finally, the organisation should be able both to determine and influence

- ◇ the value the systems generate
- ◇ the risks associated with the systems
- ◇ the costs the systems incur.

In other words, the systems should be *under control*.

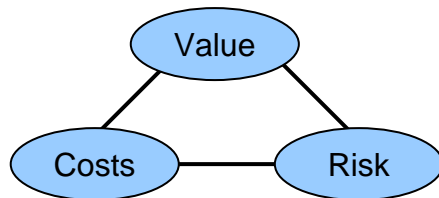


Figure 4: balancing value, costs and risk

IT Governance = IT under control

This third area, *under control*, is the area that IT Governance focuses on. We've selected two of the various definitions of IT Governance that help clarify what we're talking about.

CobiT defines it as "A structure of relationships and processes to direct and control the enterprise in order to achieve the enterprise's goals by adding value while balancing risk versus return over IT and its processes".

A decision rights and accountability framework

Peter Weill, director of the Center for Information Systems research at MIT, prefers "Specifying the decision rights and accountability framework to encourage desirable behaviour in the use of IT" and refers to decision-making in five critical domains of IT:

- ◇ principles,
- ◇ architecture,
- ◇ infrastructure,
- ◇ business application needs and
- ◇ investment and prioritisation.

We warmly embrace Weill's reference to behaviour, recognising that it's about competent and motivated people interacting in a constructive manner in the formal and informal context of an organisation.

Are the right people taking well-informed decisions about critical IT domains?

Combining these two definitions, we can say that IT Governance is about having processes that ensure that the right people are taking well-informed decisions about critical IT domains in order to achieve an appropriate balance of value, costs and risk from a business perspective.

We consider it self-evident that IT Governance has a strong relationship with Enterprise Governance ("The set of responsibilities and practices exercised by the board and executive management with the goal of providing strategic direction, ensuring that objectives are achieved, ascertaining that risks are managed appropriately and verifying that the enterprise's resources are used responsibly" according to CIMA). Sometimes this relationship is explicitly defined, but it is often inferred from the fact that the same board members deal with both

domains. Their main concerns are perceived to be whether their IT management is going to manage risks, achieve its goals and create business value, which can vary from 'keeping the lights on' to achieving competitive advantage by using IT.

IT Governance, so what's new?

IT Governance is a fairly new term and according to market researchers like Gartner it is gaining in interest but managing value, risks and costs doesn't sound that revolutionary. So what's new?

Times have changed. The license to print money expired at the turn of the century. During the nineties it seemed better to spend time and money on growing as opposed to controlling, but now we live in more disturbing times and we're on the defensive.

Another explanation for the increasing interest in IT Governance is the board level realisation that having decent IT will not only enable the organisation to survive but might also enable success. When the board wants to understand what IT *really* means, we're definitely talking about IT Governance, whether it's defensive or offensive.

Defensive or offensive IT Governance?

On the defensive side, certainly the need to comply with regulations like Sarbanes-Oxley and IFRS (International Financial Reporting Standards) has focussed attention on being able to prove that the applications and IT processes, along with other business processes, are under control. Alongside this mandatory aspect, the economic recession has initiated cost-cutting programmes, forcing IT departments to identify and get more grip on their costs, either to justify them or to reduce them.

A third reason why IT Governance is on the executive agenda is the acceptance that the business depends on IT to such a degree that major outages can seriously affect the bottom line of organisations, due to extra costs and/or loss of revenue incurred by outages, inefficiencies during the implementation phase of mergers and reorganisations and finally as a result of loss of market when external campaigns are delayed by late and inadequate IT support.

Using IT to retain existing business and create new business

Whereas the first three points are fairly defensive by nature, the fourth reason invites considering an *offensive* approach, addressing the question: "How can we use IT to retain existing business and create new business?".

Business-IT Enlightenment

A koan is a story or question in the history and lore of Zen that is used to induce an experience of enlightenment. A famous example of a koan is "Does a tree that falls in the forest make a sound if there isn't anyone there to hear it?".

An IT variation on this theme is "Does an IT department create value if nobody in the business perceives it?". While a Zen master would never be so direct as to give his pupil the answer, the pupil might consider the following:

- ◇ Are we giving enough publicity to the fact that we're 'keeping the lights on'?
- ◇ Are we competent enough in keeping the lights on that the business is prepared to trust us with dealing with subjects higher up the IT value ladder?
- ◇ Is IT Governance just yet another 'hobby' of the IT department?
- ◇ If the business isn't interested in getting more out of IT, should we be pushing or pulling?

Currently, the main driver for most organisations investing in IT Governance is compliancy to external regulations but our conviction is that this defensive mode will shift to an offensive approach and that organisations that adopt this approach will have an advantage above those who take IT less seriously. This obviously depends on the degree to which IT can potentially contribute to creating new business and the degree to which organisations can take advantage of this.

So we conclude that IT Governance doesn't refer to a predefined level of maturity for all organisations, this varies according to the importance organisations assign to directing and controlling value, costs and risks associated with IT. There is, however, a common denominator across organisations that execute IT Governance: they have determined that IT is an asset that can significantly influence the 'bottom-line' of the organisation and that therefore needs to be treated accordingly.

IT value: an unknown quantity

On a generic level, IT value can be seen as the contribution IT makes to the business and in particular to the aspects of the business that contribute the most to market leadership. Tracey and Wiersema have done some interesting research on successful organizations. Defining operational excellence, customer intimacy and product leadership as three different value propositions, their research shows that most successful companies excel at one just discipline and deliver satisfactory but not exceptional results in the other two areas. Following this line of thought, we can express the IT contribution as the sum of the individual contributions to the efficiency, effectiveness and innovative capability of the business processes, taking into account which of these is the dominant factor that determines market leadership for the particular organisation. Theoretically, this can be expressed in the formula

$$\begin{aligned} \text{IT contribution to the business} = & \\ & (\text{contribution to efficiency} * \text{efficiency excellence factor}) + \\ & (\text{contribution to effectiveness} * \text{effectiveness excellence factor}) + \\ & (\text{contribution to innovative capability} * \text{innovative capability excellence factor}), \end{aligned}$$

*where the excellence factor is 0,5 for the one discipline
in which the organisation excels, and 0,25 for the other two.*

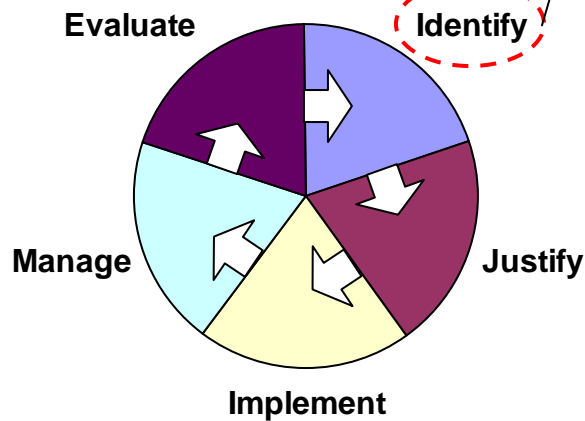
The 'benefits' paragraph in many business cases for IT investments gets ignored

Quantifying this contribution however, despite the availability of some approaches, e.g. Gartner's Business Value of IT (BVIT) and Total Value of Opportunities (TVO), is a major challenge. When this challenge is combined with the opinion of some organisations that the main value of IT lies in supporting operational processes ("just keeping the lights on"), and not much more than that, it is not surprising that the 'benefits' paragraph in many business cases for IT investments doesn't get much attention paid to it, neither by the writer nor by the reader.

Despite this difficulty, there should be processes in place for:

- ◇ evaluating the current value of IT systems
- ◇ identifying opportunities for new contributions to efficiency, effectiveness and innovative capability of the business processes
- ◇ justifying new these investments.

After which approved changes and new systems can be implemented and managed, providing input for periodic evaluation, closing the circle.



We draw in particular your attention to the identification of opportunities to benefit from IT. This is probably both the most interesting source of extra IT value but also the most difficult to organise. We suggest a few moments of reflection on how new opportunities are usually identified in your organisation. What was the most recent successful initiative and how did it arise? How could you stimulate more initiatives?

Figure 5: lifecycle of IT investments

Getting a better grip on IT

A good first step towards getting a better grip on IT is to determine how satisfied your organisation is about the various aspects of IT. Using table 1 below to evaluate the most important systems in your organisation and to decide which items you should be working on. Ask representatives from both the business (demand) and IT (supply) to judge how well the items are being executed and compare these points of view.

	Business Process 1			Business Process 2	
	Appl.1	Appl.2	Appl.3	Appl.4	Appl.5
Up and running					
◇ Availability, reliability and performance of current IT systems	Red	Green	Green	Orange	Red
◇ Quality of support when problems occur	Green	Green	Red	Green	Green
Up to date					
◇ Alignment of systems with current business needs	Orange	Green	Green	Orange	Green
◇ Speed and quality of implementation of new releases and new systems	Orange	Green	Red	Green	Red
Under control					
◇ Alignment of systems with long term goals of the organisation	Green	Red	Green	Green	Red
◇ Decision-making in order to add value to business while balancing risk and costs	Orange	Green	Orange	Green	Green

Table 1: satisfaction with IT from two perspectives

This should give you a good idea of the kind of results you should be aiming to improving and the IT areas you should be working on. Depending on the outcome of this process, you should then look for best practices and appropriate tooling in order to improve the under-performing IT domains.

Process maturity

If you come to the conclusion that you could improve the maturity of your IT processes, whether it be to increase value or reduce costs and risk, you'll probably approach this by implementing best industry practices that can be assessed and audited. This generally starts with an assessment of the current state of the processes and relationships within the organisation, after which an implementation project is defined and executed, addressing the gaps that the organisation considers important.

Various frameworks for process assessment and improvement are available, for instance:

- ◇ CobiT provides a broad framework of control objectives, focussing on 'what' rather than 'how'; this framework is generally accepted as the de-facto way of ensuring that IT processes can be assessed to confirm to the Sarbanes-Oxley standards for internal controls;
- ◇ PRINCE2 is a process-based approach for management of all types of projects;
- ◇ AMM can be used to assess the maturity of architectural aspects;
- ◇ CMMI is a maturity model for organisations that develop software;
- ◇ ITIL is a widely accepted approach for IT service management and is usually applied to the domain of infrastructure management;
- ◇ ASL was developed to address the application management domain in more depth than ITIL and is now generally accepted as the only comprehensive method in this area;
- ◇ BiSL describes the processes for business information system management, the counterpart to application management and infrastructure management on the business side.

Successful IT management is a co-production involving these last three domains (business information system management, application management and infrastructure management) and, as is usually the case, the quality of the results is determined by the weakest link. In general, we have observed that infrastructure management is the most mature, followed by application management and finally (and paradoxically, since this domain can potentially exert the most leverage on IT value), business information system management.

